

Length of mandible .....	.168
Greatest width of maxillary .....	.03
Diameter of orbit .....	.07
Distance from snout to dorsal .....	.116
Length of base of dorsal .....	.79
Greatest height of dorsal .....	.094
Distance from snout to anal .....	.346
Length of base of anal .....	.615
Height of longest ray .....	.105
Length of middle caudal rays .....	.142
Length of outer caudal rays .....	.185
Distance from snout to pectoral .....	.295
Length of pectoral (right side) .....	.128
Distance from snout to ventral .....	.127
Length of neutral .....	.057
Dorsal rays	101
Anal rays	85
Number of tubes in lateral line	98

SAN FRANCISCO, CAL., *March 1, 1880.*

DESCRIPTION OF A NEW EMBIOTOCCOID FISH (CYMATOGASTER ROSACEUS). FROM THE COAST OF CALIFORNIA.

By **DAVID S. JORDAN** and **CHARLES H. GILBERT.**

Body rather elongate, deepest at the shoulders; the profile thence to the occiput convex, the occipital and interorbital region considerably depressed; body tapering backwards from the shoulders into a short and slender caudal peduncle.

Head small, thick, the snout blunt. Mouth rather large, little oblique, the lower jaw included; maxillary slightly passing the vertical from the front of the orbit; premaxillary anteriorly on a level with the inferior margin of the pupil. Eye very large, its diameter about one-third the length of the head; interorbital region very broad. Lower lip with a narrow frenum, above which its margin is narrowly free.

Teeth large, in a single row, much as in *Cymatogaster frenatus*, but blunter, slightly compressed and truncate at tip, somewhat incisor-like, the edge, however, entire. Teeth few and distant, about $\frac{12}{8}$; none on the sides of the lower jaw. They are larger, blunter, and more wide-set than in *Cymatogaster aggregatus*.

Scales on the cheeks in three series below.

Gill-rakers small and weak, much as in *Cymatogaster aggregatus*, curved and apparently smooth.

Scales large, but rather smaller than in any of the related species, 50 in the course of the lateral line.

Spinous dorsal high; the first spine two-fifths the length of the highest; the sixth to tenth of nearly equal height, and higher than the soft rays. Anal fin with the base oblique and convex, the spines rather strong, more or less curved, as in *Abeona*.

Caudal fin narrow, forked for more than half its length, the lobes rather pointed. Pectoral fins small, not reaching to the tips of the ventrals, which attain the anal.

Fin rays: D. X, 18; A. III, 20.

Color in alcohol silvery, strongly flushed with rose-red, darker above. Top of head orange. A very distinct oblong chocolate-colored spot above the lateral line at the origin of the soft dorsal fin. Another much smaller one just below the end of the soft dorsal. Fins immaculate, slightly tinged with reddish. In life the color was silvery, with the rosy flush less distinct.

This species is known from a single specimen found by Mr. W. N. Lockington in the San Francisco market. A few others have since been obtained from sweep nets in deep water.

In its relations it is intermediate between the species which we have taken to be *Brachyistius frenatus* Gill and the common *Cymatogaster aggregatus*. The frenum of the lower lip is too little developed in the large-sealed Embiotocoids (*Abconia*, *Cymatogaster*, "*Brachyistius*") to be used for generic distinction. *Abconia* is well set off by the tricuspid teeth, but the dentition of *Cymatogaster* and *Brachyistius* is essentially the same, the slightly more incisor-like form of the teeth in *Brachyistius* being scarcely definable as a generic character.

The numbers of fin rays do not afford very good generic characters, as will be seen by the following enumeration:

	Dorsal.	Anal.
<i>Cymatogaster aggregatus</i>	IX, 20-21	III, 22-24
<i>Brachyistius rosaceus</i>	X, 18	III, 20
<i>Brachyistius frenatus</i>	VIII, 15	III, 22
<i>Abconia aurora</i>	VIII, 17	III, 20
<i>Abconia minima</i>	IX, 14	III, 16

We therefore provisionally refer the present species, with *Brachyistius frenatus*, to the genus *Cymatogaster*.

Table of measurements.

Extreme length.....	5.92 inches	
Length to base of caudal.....	4.70 inches =	100
Body:		
Greatest depth.....		40
Least depth of tail.....		11½
Length of caudal peduncle.....		15
Head:		
Greatest length.....		30
Width of interorbital area.....		8
Length of snout.....		6½
Length of maxillary.....		8½
Diameter of eye.....		10½
Dorsal:		
Length of base.....		50
Height of highest spine.....		15
Height of longest ray.....		15

Anal:	
Length of base	21
Height of longest ray	9
Distance from ventrals	25
Caudal:	
Length of middle rays	13
Length of outer rays	26
Pectoral, length	27½
Ventral, length	23
Dorsal rays	X, 18
Anal rays	III, 20
Scales	6-50-16

SAN FRANCISCO, CAL., March 2, 1880.

DESCRIPTION OF A NEW SPECIES OF DEEP-WATER FISH (ICICHTHYS LOCKINGTONI), FROM THE COAST OF CALIFORNIA.

By **DAVID S. JORDAN** and **CHARLES H. GILBERT.**

Icichthys gen. nov.

Allied to *Icosteus* Lockington, but the body lower and more elongate, not compressed at the bases of the vertical fins. Head moderate; eyes lateral; mouth terminal, little oblique, with small, sharp teeth in one series, in the jaws only. Gill-openings very wide, continuous. Gill-rakers long. Pseudobranchiæ present. Branchiostegals 7. *Body entirely scaly*. Lateral line continuous, *unarmed*. Bases of fins without spinules.

Dorsal and anal fins long and low, composed of soft rays only. Pectoral fins moderate. Ventral fins small, thoracic, 1, 5. Pyloric cæca about 6, large. Bones all very flexible, cartilaginous.

The scaly body fully distinguishes this species from *Icosteus*, with which singular genus its affinities are intimate, although the known species do not resemble each other closely.

(Etymology: *ἰζωω*, to yield or submit; *ἰχθῆς*, fish—in allusion to the flexible skeleton.)

Icichthys lockingtoni sp. nov.

Body oblong, moderately elongate, somewhat compressed, the caudal peduncle rather slender.

Head moderate, compressed, with vertical cheeks, rather broad and slightly convex above, the snout abruptly descending, hence bluntish in profile. Profile nearly straight from upper part of snout to the nape.

Mouth moderate, little oblique, the slender maxillary scarcely widened at the tip, extending to rather below the front of the pupil, the anterior edge of the premaxillary on the level of the lower rim of the eye. Lips thin. Upper lip not protractile. Premaxillary tapering backward, not forming the whole margin of the upper jaw. Maxillary behind slipping entirely under the membranous edge of the preorbital. Preorbital rather